Abstracts

Single 2.2 V operation MMIC power amplifier utilizing SrTiO/sub 3/ capacitors for 2.4 GHz wireless communication systems

T.B. Nishimura, K. Yamaguchi, N. Iwata, M. Tomita, K. Takemura, M. Kuzuhara and Y. Miyasaka. "Single 2.2 V operation MMIC power amplifier utilizing SrTiO/sub 3/ capacitors for 2.4 GHz wireless communication systems." 1997 Radio Frequency Integrated Circuits (RFIC) Symposium 97. (1997 [RFIC]): 37-40.

This paper describes single 2.2 V operation of a two-stage MMIC power amplifier for 2.4 GHz wireless local area network applications. The MMIC with 0.76/spl times/ 0.96 mm/sup 2/ area is composed of n-AlGaAs/InGaAs/n-AlGaAs FETs with a shallow threshold voltage of -0.24 V and SrTiO/sub 3/ capacitors. The capacitors with a high relative dielectric constant of 180 were employed. Under single 2.2 V operation, the developed MMIC delivered an output power of 22.6 dBm (182 mW) and a power-added efficiency of 33.2% with an associated gain of 22.7 dB at 2.48 GHz.

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